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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/551,069

09/27/2005

Peter David Ransome

NEXG-01004US0

6314

28554 7590 01/14/2009  
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EXAMINER

BALAOING, ARIEL A

ART UNIT

PAPER NUMBER

2617

MAIL DATE

DELIVERY MODE

01/14/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/551,069	<b>Applicant(s)</b> RANSOME ET AL.	
	<b>Examiner</b> ARIEL BALAOING	<b>Art Unit</b> 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 17-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 March 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/04/2008 has been entered.

### ***Response to Arguments***

2. Applicant's arguments filed 11/04/2008, with regards to Claim 8 have been fully considered but they are not persuasive.

3. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., arguments based on amendments to claim 1, however independent claim 6 does not include those amendments) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

4. Applicant's arguments with respect to the amended claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Election/Restrictions***

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5. Newly submitted claims 17-21 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

Claims 17-20 disclose a communication network structure including switching components and receivers that can be used outside of the macro and micro diversity techniques disclosed in the previously recited claims and therefore is seen as a separate invention.

6. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 17-20 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

***Claim Rejections - 35 USC § 103***

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 1-3, 6, 7, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over LABORDE (US 5,303,289) in view of REED et al (US 5,634,206).

Regarding claim 1, LABORDE discloses a communications network **10** comprising: two or more cell sites for communication with wireless terminals, at least one of the cell sites having multiple receive antennas (col. 3, line 63-col. 4, line 11; col. 9, line 4-14; integrated PCN/DCN system which includes micro-cells using multiple receive antennas); a central site having one or more controllers (col. 5, line 17-35; col. 9, line 48-60; base station controller and diversity controller); a switch system through

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which the one or more controllers are connected to the two or more cell sites (col. 6, line 52-64; col. 10, line 1-15; distribution network and multiplexers provide switching between the network and cells); a cell selector that uses a diversity technique to select one of the cell sites from the two or more cell sites for reception from a particular wireless terminal and connects the selected cell site to a respective controller through the switch (col. 5, line 17-35; col. 9, line 48-60; handoff control and cell selection are provide by the controllers); and an antenna selector that uses a diversity technique to select the receive antennas of the multiple receive antenna of the selected cell site (col. 9, line 4-14; micro-diversity of multiple receive antennas). Although LABORDE disclose the use of diversity selection, LABORDE does not expressly disclose using macro-diversity technique to counter macro spatial effects in the communication network; and using a micro-diversity technique to counter micro spatial effects in the communications network, wherein the antenna selector selects one of the receive antennas. In the same field of endeavor, REED discloses using macro-diversity technique to counter macro spatial effects in the communication network (col. 1, line 13-27; macro diversity (such as handover used to counter fading); and an antenna selector that uses a micro-diversity technique to counter micro spatial effects in the communications network, wherein the antenna selector selects one of the receive antennas of the multiple receive antennas of a selected site (col. 1, line 13-27; col. 3, line 25-60; micro diversity (i.e. receive antenna selection) used for antenna selection). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify LABORDE to include the teachings of REED, since REED states that using macro (i.e.

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handover) and micro diversity (i.e. receive antenna selection) would improve quality of a received signal (see col. 1, line 19-24).

Regarding claim 2, see the rejection of the parent claim concerning the subject matter this claim is dependent upon. LABORDE further discloses wherein the cell selector is in the central site (col. 5, line 17-35; col. 9, line 48-60).

Regarding claim 3, see the rejection of the parent claim concerning the subject matter this claim is dependent upon. The combination of LABORDE and REED further discloses wherein the antenna selector is in the one or more controllers (REED – Figure 1; col. 3, line 25-60).

Regarding claim 6, see the rejection of the parent claim concerning the subject matter this claim is dependent upon. The combination of LABORDE and REED further disclose wherein the cell selector selects the one of the cell sites before the antenna selector selects the one of the receive antennas (REED - col. 3, line 25-60; selection of a cell site must inherently take place before reception of signals to an antenna). However, the combination of LABORDE and REED does not expressly disclose wherein: relative to the two or more cell sites, the cell selector is arranged before the switch system and the antenna selector is arranged after the switch system. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the arrangement of the system, since it has been held that rearranging parts of an invention involves only routine skill in the art. See *In re Japikse*, 86 USPQ 70.

Regarding claim 7, see the rejection of the parent claim concerning the subject matter this claim is dependent upon. However, the combination of LABORDE and REED does not expressly disclose wherein: related to the two or more cell sites, the cell selector and the antenna selector are arranged before the switch system. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the arrangement of the system, since it has been held that rearranging parts of an invention involves only routine skill in the art. See *In re Japikse*, 86 USPQ 70.

Regarding claim 16, see the rejection of the parent claim concerning the subject matter this claim is dependent upon. The combination of LABORDE and REED wherein: signals of the multiple receive antennas are received at the antenna selector (); and selecting one of the signals of the multiple receive antennas and passing the selected one of the signals of the multiple receive antennas to the cell selector (REED – col. 3, line 25-60).

9. Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over LABORDE (US 5,303,287) in view of HASHIKUKI et al (US 6,141,392).

Regarding claim 8, LABORDE discloses a communication network **10**, comprising: a plurality of cell sites which receive a signal from a wireless terminal, a cell site having multiple receive antennas (col. 3, line 63-col. 4, line 11; col. 9, line 4-14; integrated PCN/DCN system which includes micro-cells using multiple receive antennas); and a first means for using a diversity technique to select one of the cell sites (col. 5, line 17-35; col. 9, line 48-60; handoff control and cell selection are provide by the controllers); second means for using a diversity technique to select multiple

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receive antennas of the selected one of the cell sites (col. 9, line 4-14; micro-diversity of multiple receive antennas); and third means for providing communication between controller and the selected multiple receive antennas of the selected one of the cell sites (col. 6, line 52-64; col. 10, line 1-15; distribution network and multiplexers provide switching between the network and cells). However, LABORDE does not expressly disclose wherein each cell site includes multiple receive antennas; and selecting one of receive antennas of the multiple receive antennas. In a similar field of endeavor, HASHIKUKI discloses a plurality of cell sites **[Figure 1]** which receive a signal from a wireless terminal, each cell site having multiple receive antennas (Figure 1 and 2); and a means for using a diversity technique to select one of a multiple receive antennas of a selected cell site (col. 1, line 35-54; col. 2, line 28-34; **222**-Figure 2). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify LABORDE to include the teachings of HASHIKUKI, since the use of selecting one of a multiple of antennas can be used to select a receive antenna with the best characteristics for signal reception.

Regarding claim 9, see the rejection of the parent claim concerning the subject matter this claim is dependent upon. LABORDE further discloses wherein: the third means comprises a switch (col. 6, line 52-64; col. 10, line 1-15). However, the combination of LABORDE and HASHIKUKI does not expressly disclose the first means is on one side of the switch; and the second means is on an opposite side of the switch. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the arrangement of the system, since it has been held



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that rearranging parts of an invention involves only routine skill in the art. See *In re Japikse*, 86 USPQ 70.

Regarding claim 10, see the rejection of the parent claim concerning the subject matter this claim is dependent upon. LABORDE further discloses wherein: the third means comprises a switch (col. 6, line 52-64; col. 10, line 1-15). However, the combination of LABORDE and HASHIKUKI does not expressly disclose the first and second means are on one side of the switch. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the arrangement of the system, since it has been held that rearranging parts of an invention involves only routine skill in the art. See *In re Japikse*, 86 USPQ 70.

Regarding claim 11, see the rejection of the parent claim concerning the subject matter this claim is dependent upon. The combination of LABORDE and REED further discloses wherein: the third means comprises a switch (LABORDE - col. 6, line 52-64; col. 10, line 1-15); wherein the first means select the one of the cell sites before the second means selects the one of the multiple receive antennas (REED - col. 1, line 13-27; col. 3, line 25-60; selection of a base station must inherently take place before signal comparison for antenna selection is made). However, the combination of LABORDE and HASHIKUKI does not expressly disclose relative to the plurality of cell sites, the first means is arranged before the switch and the second means is arranged after the switch. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the arrangement of the system, since it has been

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held that rearranging parts of an invention involves only routine skill in the art. See *In re Japikse*, 86 USPQ 70.

Regarding claim 12, see the rejection of the parent claim concerning the subject matter this claim is dependent upon. LABORDE further discloses wherein: the third means comprises a switch (col. 6, line 52-64; col. 10, line 1-15). However, the combination of LABORDE and HASHIKUKI does not expressly disclose relative to the plurality of cell sites, the first and second means are both arranged before the switch. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the arrangement of the system, since it has been held that rearranging parts of an invention involves only routine skill in the art. See *In re Japikse*, 86 USPQ 70.

10. Claims 4, 5, 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over LABORDE (US 5,303,2897) in view of REED et al (US 5,634,206) in view of TOSHIMITSU et al (US 2001/0004604 A1).

Regarding claim 4, see the rejection of the parent claim concerning the subject matter this claim is dependent upon. However, the combination of LABORDE and REED does not expressly disclose wherein the one or more controllers include transceivers that transmit and receive RF signals according to respective protocols that are used by the wireless terminals. TOSHIMITSU discloses wherein one or more controllers include transceivers that transmit and receive RF signals according to respective protocols that are used by the wireless terminals (Figure 3, 4; paragraph 51-53, 58-60; transmission and reception between base stations and mobile stations).

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Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combination of LABORDE and REED to include the TOSHIMITSU, since communication RF signals using a protocol is conventional in the art and provides wireless communication capabilities to a system.

Regarding claim 5, see the rejection of the parent claim concerning the subject matter this claim is dependent upon. However, the combination of LABORDE and REED does not expressly disclose wherein the central site is connected to the two or more cell sites via optical fibers, and each cell site comprises an optical transmitter and an optical receiver. TOSHIMITSU discloses wherein a central site is connected to two or more cell sites **10** via optical fibers, and each cell site comprises an optical transmitter and an optical receiver (Figure 3, 4; paragraph 51-53, 58-60). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combination of LABORDE and REED to include the teachings of TOSHIMITSU, since optical fiber connections is a known transmission means that provides fast and reliable propagation of data.

Regarding claim 13, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, the combination of LABORDE and REED does not expressly disclose wherein the multiple receive antennas of the at least one of the cell sites include first and second receive antennas of one of the cell sites, and the at least one of the cell sites includes a first electric-to-optical converter associated with the first receive antenna, and a second electric-to-optical converter associated with the second receive antenna, the communications network further

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comprising: an optoelectronic port having at least first and second optical receivers; a first optical fiber coupled between the first optical receiver and the first electric-to-optical converter to carry a receive signal of the first receive antenna; and a second optical fiber coupled between the second optical receiver and the second electric-to-optical converter to carry a receive signal of the second receive antenna. In the same field of endeavor, TOSHIMITSU discloses wherein multiple receive antennas **52, 56** of at least one cell site **10** includes first and second receive antennas of one of the cell sites, and the at least one of the cell sites includes a first electric-to-optical converter **50, 54** associated with the first receive antenna, and a second electric-to-optical converter associated with the second receive antenna (Figures 3, 4, 7), the communications network further comprising: an optoelectronic port having at least first and second optical receivers (paragraph 52, 53, 58, 59; connection point of transmission medium); a first optical fiber **58** coupled between the first optical receiver and the first electric-to-optical converter to carry a receive signal of the first receive antenna (paragraph 52, 53, 58, 59; transmission medium between receive antenna and base station); and a second optical fiber coupled between the second optical receiver and the second electric-to-optical converter to carry a receive signal of the second receive antenna (paragraph 51-53, 58, 59; transmission medium between receive antenna and base station). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combination of LABORDE and REED to include the teachings of TOSHIMITSU, since such a modification allows conventional

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conversion techniques to be used in over the air signaling between base stations and mobile stations.

Regarding claim 14, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. The combination of LABORDE, REED, and TOSHIMITSU further discloses further comprising: a transmit antenna **36, 40** at the at least one of the cell sites (TOSHIMITSU – Figure 3, 4, 7; paragraph 52, 53, 58, 59); an optical-to-electric **34, 38** converter associated with the transmit antenna (TOSHIMITSU – paragraph 52, 53, 58, 59; signal converter); and an optical transmitter associated with the optoelectronic port (TOSHIMITSU – paragraph 52, 53, 58, 59); wherein the optical transmitter is coupled to the optical-to-electric converter of the transmit antenna to carry a transmit signal of the transmit antenna (TOSHIMITSU – paragraph 52, 53, 58, 59; transmission medium between receive antenna and base station).

Regarding claim 15, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. The combination of LABORDE, REED, and TOSHIMITSU further discloses wherein: signals of the multiple receive antennas are received at the antenna selector (REED - col. 3, line 25-60); and the antenna selector selects the one receive antenna of the multiple receive antennas by selecting one of the signals of the multiple receive antennas by selecting one of the signals of the multiple receive antennas and passing the selected one of the signals of the multiple receive antennas to the cell selector (REED - col. 3, line 25-60).

### ***Conclusion***

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to ARIEL BALAOING whose telephone number is (571)272-7317. The examiner can normally be reached on Monday-Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, V. Paul Harper can be reached on (571) 272-7605. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ariel Balaoing/  
Examiner, Art Unit 2617

/A. B./  
Examiner, Art Unit 2617